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Rescuing the Earth through Small World Play

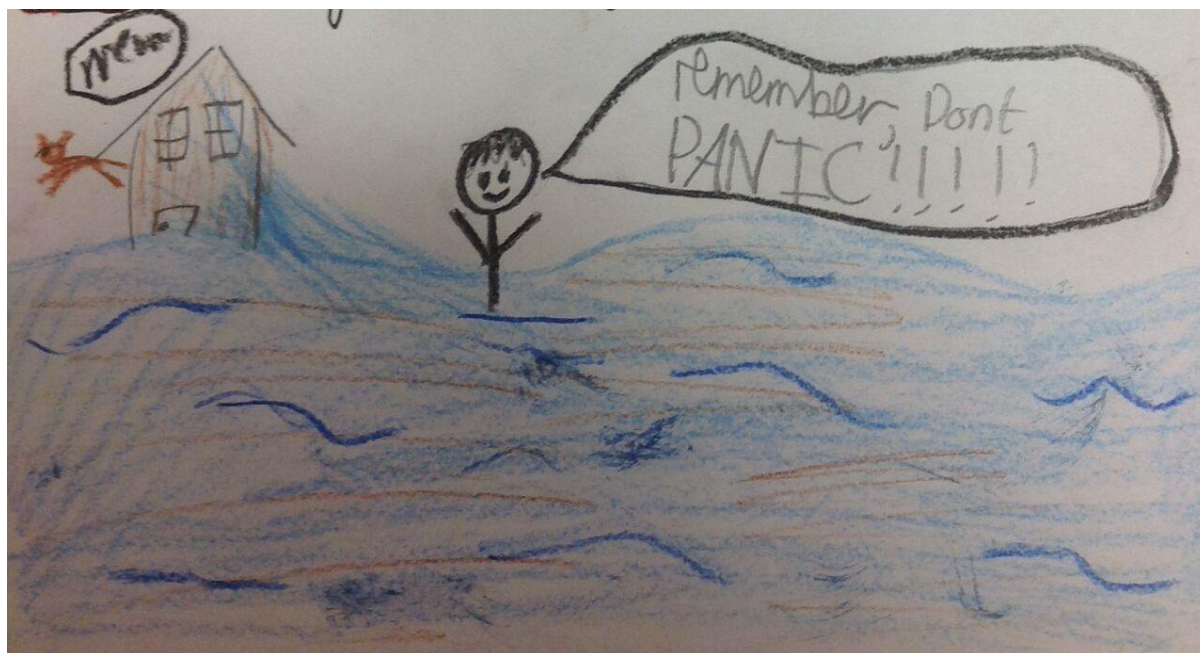


Figure 1: In the event of an environmental challenge - 'Remember, don't PANIC!'

Playful pedagogy as a response to challenging events

Playful pedagogy is a powerful way to develop children's deep understanding of our complex and dynamic earth. Children are sophisticated and resilient thinkers; they are young citizens and stewards capable of taking a solution focused approach to environmental challenge. This chapter is forward thinking and future centred, and positions elementary children as powerful problem solvers who can readily take an active role in supporting local communities during times of climatic disruption. It illustrates how children can explore and build capability and suggests implications for educators in their encounters with children. An enabling outlook, enacted through a storied approach to disaster, risk reduction and emergency education leads to a proactive response to climate change that builds emotional and practical resilience. This chapter offers practical ideas including a model to support planning, which is illustrated through school-based case studies. These seek to access children's thinking, develop skills and knowledge, and explore attitudes, values and engagement.

A focus on weather disruption rather than climatic catastrophe

Climate change is complex, challenging and controversial. Due to our profound dependence on nature, climate change shakes the security of the human sense of being at a basic level and can elicit a doom laden, catastrophising approach (Weintrobe, 2013). This can be overwhelming for teachers when working with elementary children, so it is essential to work through such anxieties and take a developmentally appropriate approach to this topic for young learners. Sobel (2008) urges educators to consider developmental parameters in deciding how climate change education should be undertaken so that it is a meaningful part of children's educational experience and handled in an age appropriate and sensitive way. In an eco-playful pedagogy, this topic can be taught with openness and honesty, which respects local context and equips and empowers children for the future. Our focus is not on global catastrophe but on local, disruptive weather events such as storms, floods and snowfall; phenomena that are within the grasp of young children. In this way we are careful to 'approach these questions from a perspective that maximises hope' (Sobel, 2008, p.141) rather than

hopelessness, and fosters strength not fear. Children tackle challenges with their own level of complexity and their responses guide teachers, whose decisions on how to teach this topic have significant impacts on learning and on life.

A matter of scale: teaching from the local and familiar

Teachers are experts on their own context, local situations, and children's experiences and interests. A focus on events that may happen within the locality, on an everyday scale, involving ordinary people enables children to explore their fears and fascinations in playful 'emergency' scenarios. These involve real life situations to which communities can respond. Children need time and space to work through such challenges. To take the 'urgency out of an emergency', teachers can offer learning experiences where both the scenario and the solution are accessible to children on a manageable scale and where the learners maintain agency. Teacher-led scenarios can offer familiarity, yet challenge. Scenarios can present a situation that is within the child's experience to explore and on a scale where the children can effect a practical solution. As they achieve success and control in their contribution to events in the community, they develop as active citizens with a confident sense of responsibility. In this way 'we create opportunities to practice ecological behaviours as part of the classroom and school culture' (Sobel, 2008, p.141). Curriculum design also positions teachers with considerable responsibility 'to structure learning around questions and to claim time for students to explore, experiment and interpret. In inquiry based learning the teacher is a coach, problem poser and facilitator' (Demarest, 2015, p.5). Climate change education requires such a sophisticated response.

Playfulness: learning not to panic

Children have a right to inhabit the playful world of childhood. In an eco-playful approach, carefully structured and progressive experiences help children to build personal meanings in real life contexts and empower them to cope emotionally with local climatic challenges. Research and practice suggests that an eco-imaginative approach can foster encounters and relationships with natural and built environments that allow children to see different perspectives (Witt and Clarke, 2014) and suggest solutions often missed by adults. This approach to tackling climate change with elementary children is both cognitive and affective; it involves both the head and the heart. Learning about the environment demands knowledge of an array of 'big ideas' including understandings of place, people, scale, human-nature interactions, natural hazards, built environments, transport systems, materials, forces, and sustainability. Further, learning requires attention to a range of discipline specific vocabulary and also subject specific and core skills.

Our focus is on 'middle childhood' (Sobel, 2008), broadly the period from six to twelve years. This phase builds on the early explorations of kindergarten, where play is how very young children begin to make meaning of their world. This phase precedes later complexities, where teenage learners sort facts from opinions, explore ideas about bias and controversy, question motives and make informed arguments. Middle childhood invites experiences that tap into feelings and offer shape and structure to educational experience. Here scenarios intertwine reality and fantasy. A playful approach by teachers invites participation and encourages sharing of thoughts and feelings.

Constructing achievable solutions

When teachers position elementary children as resilient problem solvers, the focus is on solutions rather than problems as they need 'to explore examples of positive action for change' (Hicks, 2014:, p. 122). Complex environmental events represent 'puzzles' for children to solve. These test learners' ingenuity in unique ways. These puzzles require children to use discovery, enquiry and decision making skills that encourage creative and critical thinking. Independent learning helps keep minds open. The ideas in this chapter give children opportunities to practice such skills in a risk free environment and to rehearse solutions to complex events. Climate change is a dynamic issue and requires a flexible approach. Mental and emotional preparation ameliorates anxiety and builds

emotional resilience. Rehearsal fosters a calm, measured response, which builds confidence and maintains wellbeing. When teachers scaffold age appropriate, solution focused learning wellbeing is both cognitive and emotional and playfulness is maintained.

Small worlds: big players

Small worlds are vehicles for teachers to support children in working through life's events. Small world play provides a 'stimulating and meaningful context,' which 'excites, emboldens and empowers,' and 'gives children time to experiment, create and reflect' (Bromley, 2004, p.1). Through using a small worlds approach, abstract ideas of climate change can be made accessible to classroom teachers and to elementary children. This holistic approach starts from 'inside the child's world, recognising children's inherent fascinations with nature and with people, and then builds from these starting points to create sturdy community valued knowledge' (Sobel, 2008, p.3). Although these stories may be of small proportions; 'they provide cognitive accessibility because all the disparate elements of a place are brought into one view' (Sobel, 2008, p.46). A seemingly mundane improvisation provides opportunities to imitate, symbolise and imagine. Scenarios are brief tasters, glimpses of the future, to prompt discussion, thought and action. These can be 'designed to provide a series of different pictures of the future so we can explore ways in which the future might work out' (Hicks, 2014, p.134). For many children, 'small world play will be a very significant experience indeed, offering them control over the miniature environment, and the opportunity to become deeply engaged' (Bromley, 2004, p.1). As curriculum makers, teachers research, plan and mediate a topic. Teachers know their children and follow their interests in ways that extend and complement the Common Core Standards in the creation of engaging, challenging, and empowering activities that position young children as agents of change.


A process planning model: responding to environmental challenge

The enquiry based model in Figure 2 has emerged over four years in our work with student teachers and children in local schools in the South of England, United Kingdom. The model is process-led rather than focused on pre-determined outcomes; it emerges from the children's ideas and is place responsive.

This model aims:

- To invite children to explore complex scenarios in safe situations, which allow rehearsal of environmental change events.
- To create mini-worlds enabling children to articulate sophisticated responses.
- To construct a proactive response to climate change and sustainability practices that build emotional and practical resilience, through a storied approach to disaster, risk reduction and emergency education.
- To encourage young children to ask deep questions and be involved in values led education.

These aims may be used by teachers to inform learning intentions in their planning.

	Process	Key questions	Skills and attitudes
	Setting the scene and eliciting ideas	Establishing context Where is this place? What is this place like? What do we know about this place? What happens in this place? How do we feel about this place? How do we fit into this place?	observation questioning communication
	Creating a small world environment	Place making What is this landscape like? What sort of place is it? Who uses it? How is this place connected to other places?	modelling use of scale selection of materials decision making communication
	Posing a challenge	Building awareness What is the issue? Why is it an issue? Who might this event affect? What views, feelings and attitudes do we have?	enquiry questioning empathy
	Planning a response	Analysing and making sense of the situation What do we need to consider? What might we do? How might we work together? How will we know if our actions work?	questioning predicting futures thinking
	An event	Participation in the event How has the environment been affected? How has the landscape changed? What is the effect on the local people and wildlife? What is the effect on the built environment?	cause and effect role play simulation modelling
	Taking action in response to an event	Proposing solutions What views, feelings and attitudes do the children have? What decisions will need to be taken to respond to the event? Who can take control? Whose	analysis problem solving decision making empathy

		responsibility is it?	
	Positive outcomes	Evaluating actions for a positive future What happens to the environment now? How can we plan for a future environmental event?	evaluation problem solving resilience

Figure 2: A process planning model: responding to environmental challenge.

Focus of the enquiry: extreme weather events

Teachers can adapt such a model for a range of purposes. Here we consider extreme weather in the context of climatic disruption. A range of events could be considered including storms, drought, floods, snowfall, erosion or other local phenomena. Various forms of disruption might ensue, for example, interruption to transport or power, damage to buildings, closure of services such as schools, shortages of water or food supply and incidents of pollution. In each case, teachers use their professional judgement to help children to articulate their response in terms of feelings, ideas, questions and attitudes.

Description of practice: using the planning model

The following school-based case studies illustrate the model in practice as student teachers work with ten and eleven year olds in a primary school in the South of England, United Kingdom. Activities included small world play with miniature figures, talk and recording through photography, animation and cartoons. These creative and imaginative strategies motivated and inspired the children to engage with complex and challenging issues. Children were encouraged to create models and to engage in role play that developed empathy for, and understanding of, possible future scenarios within their own neighbourhood. These activities captured natural interest, created meaningful contexts, imitated and enacted events, developed narrative, elicited vocabulary, motivated collaborative enquiry and developed skills of critical literacy.

Each stage of the planning model is now considered in turn.

❖ Description of practice: setting the scene and eliciting ideas

Student teachers gave pupils opportunities to explore their school grounds. These included observations of natural and man-made environments, experiencing the elements and reconnecting to significant places. Some children took miniature figures with them to seek a different view, to consider scale and perspective and to discuss scenarios. The practitioners respected the children as experts in their school environment and as learners with local knowledge.

<i>Children noticed that recent weather had left the playground wet and littered with debris. Here children simulate a vehicle damaged by a fallen tree.</i>	<i>A casualty is helped from danger!</i>
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Figure 3: The planning model in action: setting the scene and eliciting ideas

Student teacher reflections:

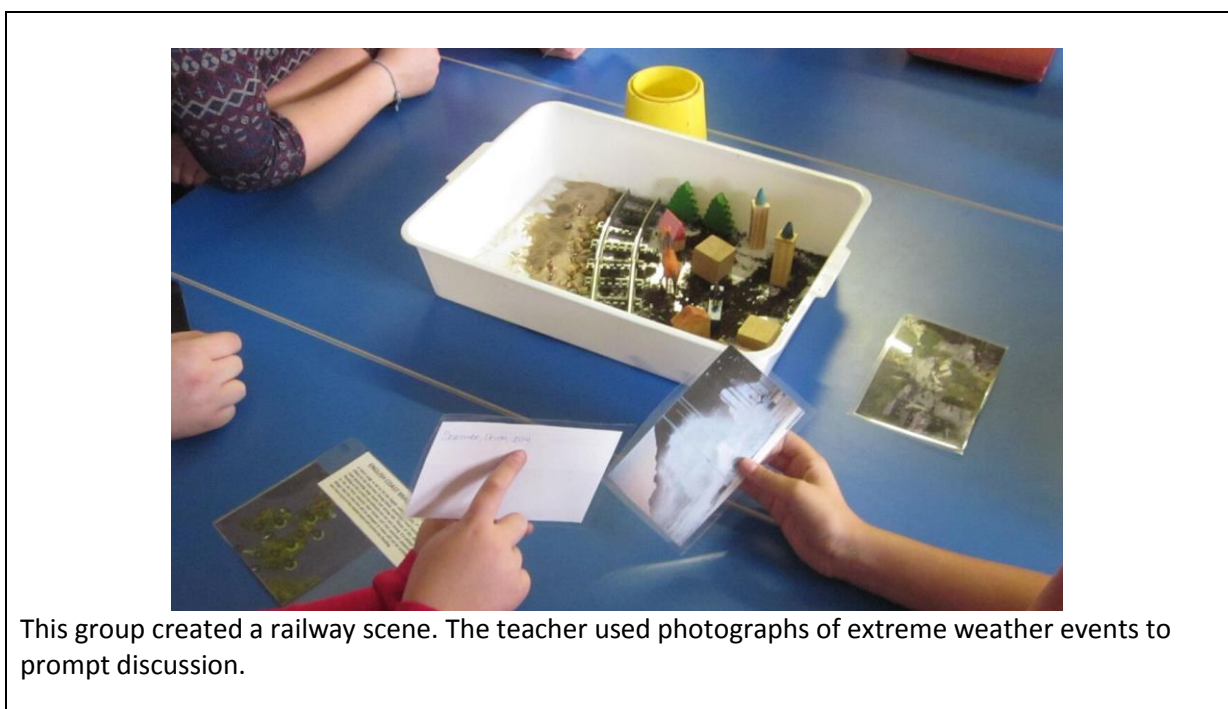
'There was a lot of earnest talk and close looking. The children were the guides in their school grounds; they took control, pointed out features, and showed ownership and belonging that they later applied in their small world scenarios.'

'Children 'tested' their grounds; they stood in the breeze, stamped on surfaces, collected natural materials ...'

'Children worked in small groups with adults; they jumped and stamped in embodied learning. And simultaneously they were involved in sophisticated talk.'

❖ **Description of practice: creating a small world environment**

Pupils were invited to create an environment in a small plastic play tray. They drew on their familiarity with local landscape and used a range of natural and man-made materials to re-construct features. Their explorations involved place-making, where decisions were taken about the site and the situation of their 'story'. Robertson (2014, p.75) reminds us that 'the act of creating something is central to the thinking process.'



This group created a railway scene. The teacher used photographs of extreme weather events to prompt discussion.

Figure 4: The planning model in action: creating a small world environment

Student teacher reflections:

'The children were immediately intrigued by the situation and were engaged throughout.'

'I would definitely use this method again as it gave the children a different perspective to work from. One child noted, "This must be what happens to an ant when it rains!"'

'Fettes (2005) notes that imagination is central to the process of becoming a teacher.'

❖ **Description of practice: posing a challenge**

A forthcoming weather event was introduced to the children in a variety of ways, including video clips, weather forecasts and television and radio news reports. These prompted the children to talk about their personal knowledge of weather phenomena and also to discuss the experiences of others. Conversations encouraged children to express their feelings towards previous extreme weather events and future possibilities.

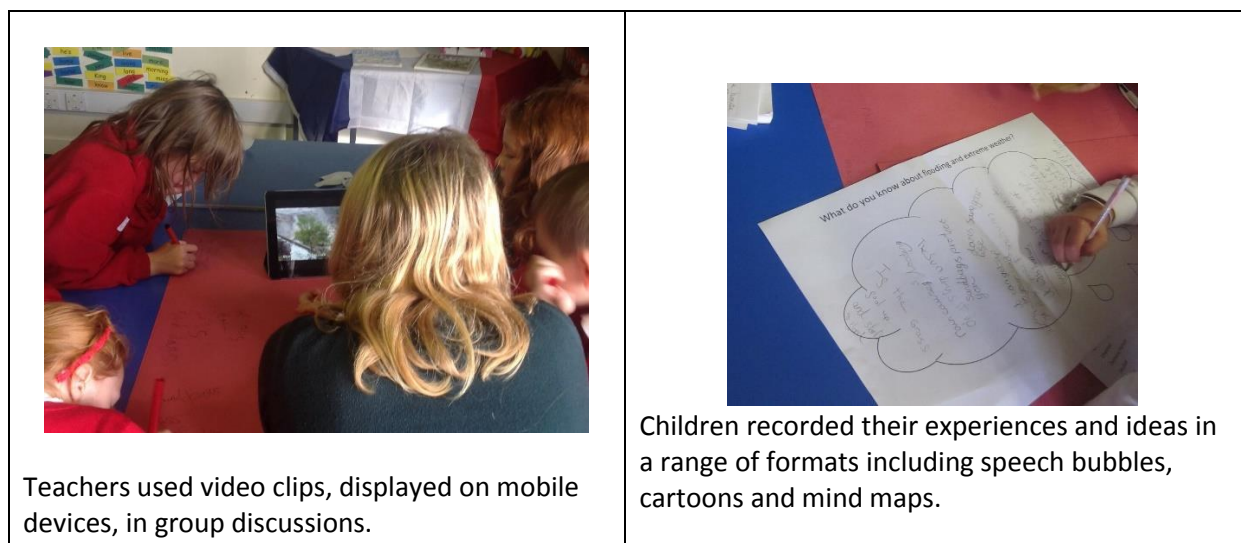


Figure 5: The planning model in action: posing a challenge

Children's reflections:

'I feel scared and frightened in storms.'

'I feel sorry for the people whose house gets wrecked.'

'I sometimes worry about trees falling on me when the wind blows.'

❖ **Description of practice: planning a response**

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Children were challenged to mitigate the effects of an extreme weather event in their small world. They had a responsibility and a voice. Technology enhanced communication and recording; learners accessed video materials, made movie clips and produced information leaflets.

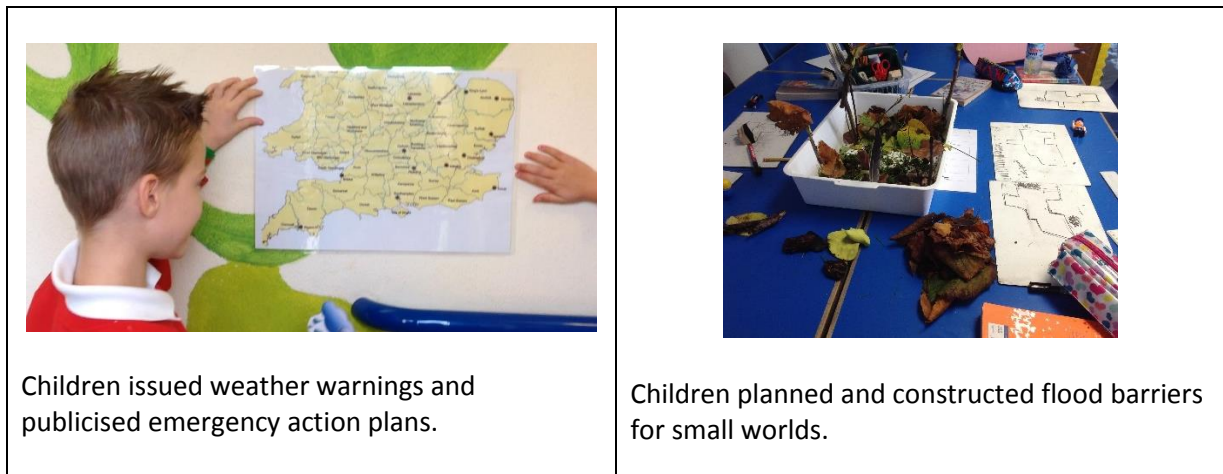


Figure 6: The planning model in action: planning a response

Student teacher reflections:

'The children talked their way to a solution.'

'We saw conversations not just question and answer.'

❖ **Description of practice: an event**

Children simulated the extreme weather event. They deluged small worlds with water to create floods, they added artificial snow for seasonal effect and they used an electric hairdryer to model storm conditions.



Figure 7: The planning model in action: an event

Children's talk during a flood scenario:

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'If I put a really tall building near to the river it might fall down.'

'Sometimes you get trees in the middle of the river.'

'One side was less affected it could have been higher land.'

'There was damage to houses but we live on the top of the hill so we will be fine.'

'If it was winter that would be the worst time for a flash flood, you could lose electricity and be freezing.'

'It might damage pipes and leak sewage everywhere.'

'People might get trapped.'

'There might not be drinking water.'

'The stream isn't meant to be there.'

'He's stuck, that isn't good.'

'That car is not in the best of positions.'

'You can see the devastation, you can see the difference.'

❖ **Description of practice: taking action in response to an event**

Children made adjustments in the small world scenarios. They evaluated their interventions and considered the effect of actions and responsibilities. Children experienced agency and took control of the situation.

The planning model in action: taking action in response to an event

Children respond to the event

If we make two rows of sandbags then the water won't be able to get through

The wall slowed down the water

If the water came faster, it would have flooded our school more. The water could get over the sandbags.

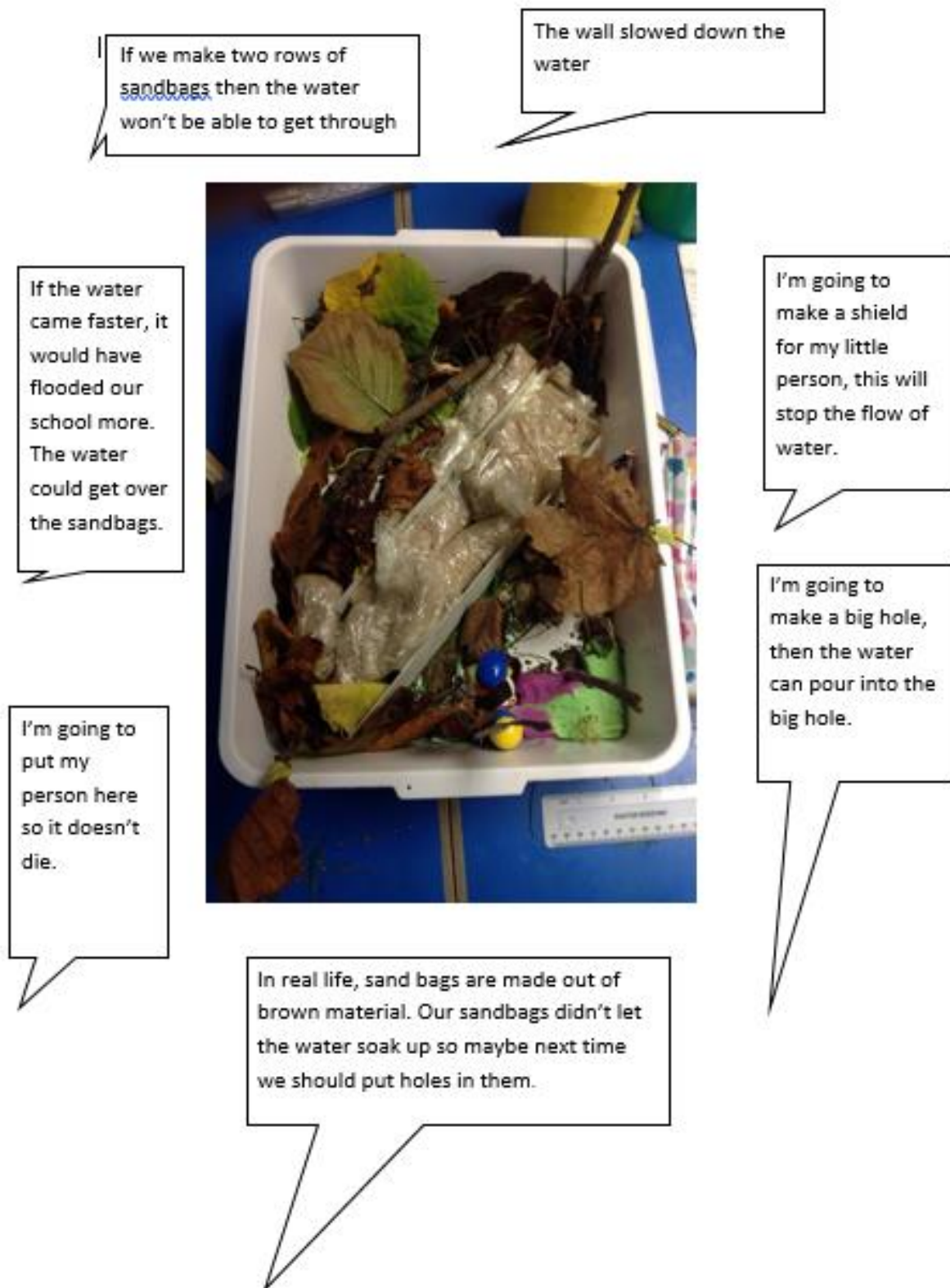
I'm going to make a shield for my little person, this will stop the flow of water.

I'm going to put my person here so it doesn't die.

I'm going to make a big hole, then the water can pour into the big hole.



In real life, sand bags are made out of brown material. Our sandbags didn't let the water soak up so maybe next time we should put holes in them.



Children's suggestions for action :

'We'd need sandbags.'

'We could make a ramp for the water.'

'We should shut all windows and doors.'
'We must move valuable furniture.'

❖ **Description of practice: positive outcomes**

Children confidently responded to the scenarios. These were safe rehearsals of potentially serious real world events. The tray scenes offered opportunities to model thoughtful responses. 'Being able to express your thoughts and feelings, beyond the spoken or written word, offers a different way of communicating' (Robertson, 2014, p.75). The children communicated in sophisticated and personal ways. They made both individual and collective responses and all had a part to play. Teachers addressed emotional responses as they arose. Miniature figures and animals were rescued from tricky situations, communications were repaired and order was restored. The children were empowered to help the small world communities to move forward after the event. Student teachers saw how, 'through creating miniature representations of ecosystems, or neighbourhoods, we help children conceptually grasp the big picture. The creation of small worlds provides a concrete vehicle for understanding abstract ideas' (Sobel, 2008, p.45).

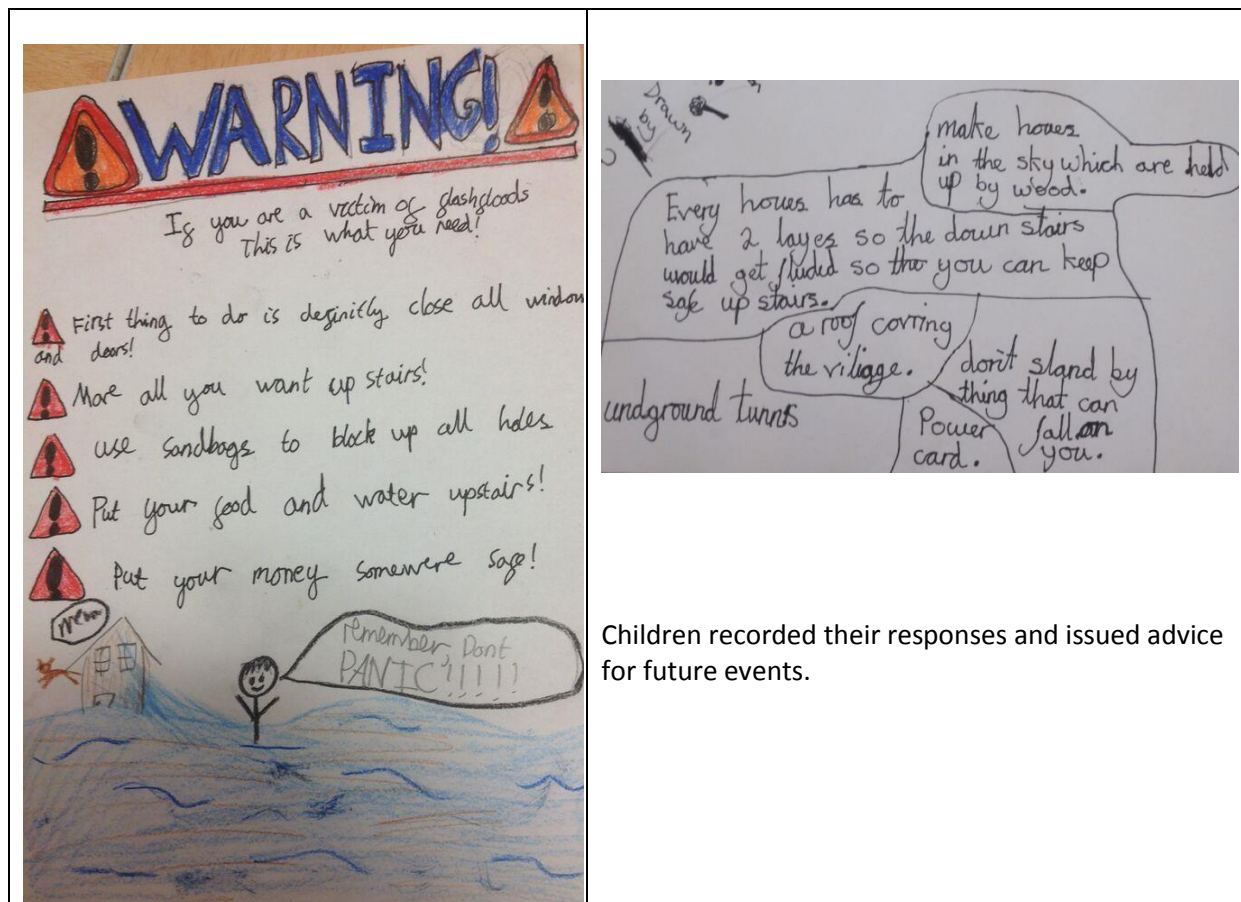


Figure 9: The planning model in action: positive outcomes

Student teacher reflections:

- 'The children were the experts.'
- 'They had really good ideas.'
- 'Small worlds allowed place exploration.'
- 'Children could physically see concepts such as flooding in action.'
- 'The children created worlds that could be manipulated.'
- 'They saw the world from another perspective.'
- 'They could see the bigger picture, not just their lives but impacts on others.'

Over to you

Educators have a significant role in helping children to negotiate the complex issue of climate change. We invite you to take inspiration from this case study, to try this model, to personalise it for your circumstances and to continue to adapt approaches for your own setting. We recommend the addition of eco-playfulness to practice. When teachers employ imagination we know good things happen. Visioning the future requires imagination and hope, and taps into what it means to be human; it uplifts and empowers, (Hicks, 2014). Social psychology suggests people who have self-transcendent values show concern for environmental problems and have higher motivation to act to address issues (Crompton, 2013). This type of work with children is about creating spaces to consider our place in the world and our responses to challenges. There are possibilities in today's classroom to promote opportunities for play, imaginative thinking and hopeful responses. This approach is one of respect for children as active citizens.

Central to building positive responses to environmental challenge is a re-examination of our relationship with nature. Immersion in nature (Sobel 2008, Boxley et al. 2014) provides a life foundation and 'sources of strength' (Hicks 2014) that enables children to face difficult environmental issues as they mature. 'By working on small, manageable, cognitively accessible environmental problems at a micro-level'... we develop ... 'the sense of agency, the locus of control ... crucial in shaping stewardship behavior' (Sobel, 2008, pp.149-150). In our examples, children demonstrate this in their protection of school grounds and local communities.

In summary

- position yourself as teacher to allow eco-playful responses to climate events.
- position your children as problem solvers, decision makers and change agents.
- build a futures-oriented curriculum for resilience and hope.

Bardwell (1991) stresses the importance of modelling success stories to students if they are to begin to create their own view of what is needed. We offer our model as a 'refreshing change from the typical doomsday warnings or edicts for appropriate action' (Bardwell, 1991, p.9). Although climate change is a new challenge, it also gives opportunities for empowerment. The small worlds described in this chapter provide narrative contexts for children, which deepen understanding of probable and preferable local futures (Hicks, 2014). A respect for childhood, for its playfulness and resilience, reminds educators that in the face of environmental challenges it is possible for young learners to build familiarity not fear, relationships not rifts (Monbiot, 2013). An eco-playful approach promotes hopeful, pro-environmental behaviours, and is likely to bring happy endings to our environmental narratives with children.

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